**B5 – Homeostasis and Response Learning Journey**

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| 1  C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | The **nervous pathway** is: **Stimulus → Receptor → Sensory Neurone → Co-ordinator (CNS/Relay Neurone)→ Motor Neurone → Effector→ Response**.  **Reflexes** are **automatic** and **involuntary**. The **co-ordinator** is the **relay neurone** in the spinal cord. |
| 2C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | **Synapses** are gaps/junctions between **nerves** and a chemical **diffuses** across. |
| 3C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | Know how to measure **reflexes** using Required Practical method. |
| 4C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | The **brain** is formed of several parts: **Cerebral cortex** = **memory**, **Medulla** = **involuntary actions**, breathing etc. **Cerebellum** = **balance**. |
| 5C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | Know how to dissect eyes and identify the major parts (**retina**, **sclera**, **iris**, **lens**, **suspensory ligaments**, **cornea**, **ciliary muscle** and **optic nerve**. |
| 6C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | Describe how the eye controls light, **focuses** on objects near ( **ciliary** contract, **suspensory** relax/slacken, **lens** fat, more **refraction**)and far and how we can apply this to correct some **vision defects** (glasses, contact lens). |
| 7C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | The human body must be kept at **37°C** so **enzymes** function at their **optimal** rate.  There are mechanisms used to keep body warm or cool; **Vasodilation** (reduce blood flow so less heat loss) and **constriction**, **shivering** (generates heat by **respiration**), **sweating** (lose heat through **evaporation**), body hairs function (trap **insulating** layer of air). |
| 8C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | **Endocrine** glands are **ductless** and produce **hormones**.  **Hormonal control** is slower, general and longer lasting compared to nervous control. |
| 9C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | **Blood sugar Concentration** is controlled by hormones produced by the **Pancreas**.  **Insulin** – sugar goes **INTO** Liver/muscles (as **glycogen**) = lower BSC  **Glucagon** – converts **Glycogen** to **Glucose** = higher BSC  **Diabetes Type 1** is inherited and can’t produce insulin.  Type 2 is linked to **obesity** – cells don’t respond to insulin. |
| 10C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | The **kidney** works by **ultrafiltration** (**urea**, water, ions and glucose out of the blood) and **selective reabsorption** (all glucose and some water and ions into the blood).  **ADH** is the hormone that controls **kidney** function. |
| 11C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | **Dialysis** ‘cleans blood’. It is a treatment and has to be done every few days.  **Transplant** is a permanent cure but kidney may be **rejected**. Need **immunosuppressive** drugs. |
| 12  C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | There are four hormones that control the **menstrual cycle** (**oestrogen**, **progesterone**, **LH** and **FSH**).  **FSH** cause egg to **mature**.  **Oestrogen** stops (**inhibits**) **FSH**, thickens **uterus** and starts **LH**.  **LH** causes egg to be released on day 14 (**ovulation**).  **Progesterone** maintains **uterus**. |
| 13C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | **Oestrogen** and **Progesterone** are used as **contraceptives**.  **FSH** and **LH** are used as **fertility** treatments.  **IVF** is where eggs are **fertilized** outside the body and then **implanted**. |
| 14C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | **Adrenaline** is a **hormone** released from the **Adrenal glands** on the **Kidneys** and prepares you for **‘fight or flight’**.  **Thyroxine** is released from the **thyroid gland** in the neck and controls **metabolism**.  **Thyroxine** release is controlled by **TSH** released from the **Pituitary**. |
| 15C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | Plants respond to their environment by growing – called a **Trophism**.  **Auxin** is the **hormone** responsible and is produced at the growing tips of plants.  Causes more **cell elongation** (growth) in shoots and less in roots. |
| 16C:\Users\rca\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\AABC820.tmp | **Auxins** are used commercially as a **weedkiller** and **rooting** powders.  **Gibberellin** is used to speed up development and **flowering**.  **Ethene** is used to control **ripening**. |